

Customer No.: 31561
Docket No.: 22778-US-PA
Application No.: 10/688,623

AMENDMENT

To the Claims:

1. (previously presented) A light emitting device comprising:
 - a light-generating unit for generating a primary light in a first wavelength range;
 - a wavelength-converting member connected to said light-generating unit, wherein the wavelength-converting member has a material layer used to convert a portion of said primary light into a secondary light in a second wavelength range wherein said primary light in wavelength is shorter than said secondary light; and
 - at least an omnidirectional reflector of an omnidirectional photonic crystal connected to said wavelength-converting member for receiving said secondary light and the remainder of said primary light which was not converted by said wavelength-converting member;
- wherein said reflector includes a dielectric structure having a plurality of dielectric units that are formed into a stack with a spatially periodic variation in dielectric constant, each of the dielectric units including at least three dielectric layers which are different from each other in reflective index and layer thickness in such a manner that said reflector has a transmittance characteristic that permits transmission of said secondary light therethrough, and a reflectance characteristic that substantially permits omnidirectional total reflection of the remainder of said primary light back to said wavelength-converting member.

Customer No.: 31561
Docket No.: 22778-US-PA
Application No.: 10/688,625

2-3. (cancelled)

4. (previously presented) The light emitting device of claim 1, wherein said dielectric layers includes first, second and third dielectric layers, said second dielectric layer being sandwiched between said first and third dielectric layers and having a refractive index less than those of said first and third dielectric layers, said third dielectric layer having a refractive index less than that of said first dielectric layer.

5. (previously presented) The light emitting device of claim 1, wherein said light-generating unit is inlaid at one side of said wavelength-converting member, said reflector being disposed at an opposite side of said wavelength-converting member that is opposite to said one side of said wavelength-converting member.

6. (original) The light emitting device of claim 5, further comprising a second omnidirectional reflector, and first and second glass substrates that sandwich said light-generating unit and said wavelength-converting member therebetween, said wavelength-converting member having opposite upper and lower surfaces, said light-generating unit including an one or two dimensional arrays of light-generating elements that are inlaid in said lower surface of said wavelength-converting member, said second glass substrate being formed on said lower surface of said wavelength-converting member and covering said light-generating unit, said first glass substrate being formed on said upper surface of said wavelength-converting member, said first and second reflectors

Customer No.: 31561
Docket No.: 22778-US-PA
Application No.: 10/688,625

being respectively formed on said first and second glass substrates.

7. (original) The light emitting device of claim 6, wherein said second reflector includes at least one dielectric unit that has at least two dielectric layers which are different from each other in refractive index and layer thickness.

8. (original) The light emitting device of claim 4, wherein said first dielectric layer is made from TiO₂, said second dielectric layer being made from SiO₂, said third dielectric layer being made from Ta₂O₅.

9. (original) The light emitting device of claim 6, wherein each of said light-generating elements is in the form of a light emitting diode that emits said primary light with a wavelength ranging from 350 to 470 nm.

10. (original) The light emitting device of claim 9, wherein said wavelength-converting member includes a transparent resin matrix with a fluorescent material dispersed therein so as to convert said primary light into said secondary light with a wavelength ranging from 400 to 700 nm.

11. (original) The light emitting device of claim 7, further comprising a reflective metal layer that is formed on said second reflector.

12-24. (canceled)